

ORIGINAL
(Red)



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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

To: Phil Younis, OSC EPA Region III
From: Jack E. Williams, TATM Region III
Thru: Terry Briggs, TATL Region III
Subject: Alderfer Landfill Trip Report

Date: September 28, 1988
PCS #: 1800

Introduction:

OSC Younis was contacted by EPA site investigation officer, Paul Racette, and informed that the Alderfer Landfill site may present a potential threat to the public health and environment. The 9 acre Alderfer Landfill is located approximately 3 miles south of Souderton, Montgomery County, Pennsylvania. Mr. Racette reported that moderately low levels (10 to 5,000 micro rads/hr) of radiation have been measured at the site and that these levels may pose a threat to the residents of the area. Acting on this information, the OSC contacted EPA Radiation Specialist, Bill Berlinger to discuss situation and it was determined that that both surface water and groundwater samples should be collected to determine if any radioactive contamination is migrating offsite. Mr. Berlinger indicated that access to the site should be restricted to prevent any long-term exposure to the radioactive hazards posed by this site.

Actions Taken:

EPA OSC and TAT traveled to the Alderfer Landfill site to conduct surface water and groundwater sampling in an effort to determine if any offsite migration of any radioactive contamination has occurred. Upon arrival at the site, the OSC and TAT conducted an area investigation to obtain the number of homes that were located in the area, additionally an effort was made to locate some drinking water wells in the area that could be sampled.

The OSC and TAT met with Mr. James Fosbenner, a part owner of the site, who informed the group that the landfill had not been active for at least 25 years, however it is still the site of

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Roy F. Weston, Inc.
SPILL PREVENTION & EMERGENCY RESPONSE DIVISION
In Association with ICF Technology, Inc., C.C. Johnson & Malhotra, P.C., Resource Applied
Geo/Resource Consultants, Inc. and Envtl.

frequent midnight dumping episodes. Mr. Fosbenner also stated that the site is a popular area for small game hunting. A site tour was then conducted around the perimeter of the landfill to determine the area that would have to be fenced in order to restrict access to the site.

The sampling plan was then carried out and surface water samples were collected from a stream that is located adjacent to the site. Samples were collected from three locations, approximately 150 feet upstream of the site, at a mid point adjacent to the site and approximately 300 feet downstream from the site. The stream water was sampled for Radium 228 and Radium 226 at all three locations.

Groundwater samples were collected at three locations within 500 feet of the site. Two wells were sampled on the Fosbenner property, these wells are reportedly approximately 125 and 40 feet deep, respectively. Both of these wells were sampled for Radium 228 and Radium 226 and the shallow well was also sampled for priority pollutants. A third well was sampled on the Walters property and is also reported to be approximately 125 feet deep. This well was sampled for Radium 228, Radium 226 and for priority pollutants.

Results of Sampling:

The sampling results are outlined in the following table. All of the Radium 228 and Radium 226 results are indicated in pCi/liter and the priority pollutants are indicated in mg/liter.

SAMPLE	RADIUM 228	RADIUM 226	PRIORITY POLLUTANTS
upstream grab sample	<1	<0.6	not sampled
midpoint stream grab sample	<1	<0.6	not sampled
downstream grab sample	<1	<0.6	not sampled
Fosbenner shallow well	<1	<0.6	copper 0.017 zinc 0.048 cyanide 30.000

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Fosbenner			
deep well	<1	<0.6	not sampled

Walters			
deep well	<1	<0.6	arsenic 0.028
			copper 0.040
			zinc 0.028

Conclusions and Recommendations:

The Alderfer Landfill site poses little threat to the public health and the environment at this time. The levels of radioactivity that has been reported to the OSC by the EPA site investigation personnel are moderately low amounts and the situation does not appear to be an emergency. The population at risk in the area is limited due the rural setting, however, three homes and two small businesses are located within 1000 feet of the site. According to the EPA radiation specialist (Berlanger) the short term exposure risks to the radioactive levels reported at the site are apparently very low, however, the long term exposure effects could be potentially harmful. The sampling results indicate that no offsite migration of the radioactive material is presently occurring and that no radioactive particles have entered the groundwater aquifer system. However, some concern should be expressed in regard, to the consumption of foodstuffs derived from small game hunting on the site. If the animals have made the contaminated areas their habitat, these animals could potentially become contaminated and be harmful if consumed.

The most cost effective method of preventing long term exposure at the site is by educating the public as to dangers posed by the site by posting signs that detail the situation and that restrict hunting at the site. A public discussion concerning the site and the dangers that long term exposure may pose to public health could be held at a minimal cost the the EPA. A second option available is to physically restrict access to the site by erecting a fence around the property. A fence around the site would require approximately 2600 linear feet of fencing and approximately one week for installation at a cost of roughly \$ 23,000.00. The third possible option is to remove the source of radioactive material from the site. The amount of soils that would have to be removed is roughly estimated to be at least 4000 cubic yards. The excavation, transportation, and disposal of this amount of low level radioactive materials would cost approximately \$426,000.00. The radiation could potentially be naturally occurring from the country rock of the area. An investigation of the regional geology is strongly recommended before any soil removal activities are initiated.

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PROJECT COST DISTRIBUTION

OPTION 1: PUBLIC MEETING / POSTING THE AREA

EPA/OSC 4 HOURS X 30/HR = \$ 120.00

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6 SIGNS AT 150.00 EACH = \$ 900.00

TOTAL PROJECT = \$ 1,140.00

OPTION 2: PHYSICALLY RESTRICTING SITE ACCESS

ERCS COSTS:

FENCE COST (2600 FEET, 6 FEET HIGH, 9 GAUGE CHAIN LINK)
\$ 4,000.00

EQUIPMENT COSTS: (1 BACKHOE, 1 TRUCK FOR 1 WEEK)
\$ 3,000.00

PERSONNEL COSTS: (1 RM, 1 RT, 1 OPERATOR FOR 1 WEEK)
\$ 7,500.00

TAT COSTS:

PERSONNEL COSTS (1 TAT TO MONITOR CONTACTOR ACTIVITIES)
\$ 3,500.00

EPA COSTS:

DIRECT COSTS (1 OSC TO COORDINATE THE PROJECT)
\$ 2,100.00

INDIRECT COSTS (OFFICE SUPPORT)
\$ 4,200.00

TOTAL TIME FOR INSTALLATION IS ESTIMATED TO BE 1 WEEK.
TOTAL PROJECT COSTS = \$ 24,300.00

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OPTION 3: REMOVAL OF THE CONTAMINATED SOILS

ERCS COSTS:

EQUIPMENT COSTS: 3 DUMPTRUCKS @ \$ 11,247.00
1 BACKHOE @ \$ 3,100.00
1 OFFICE TRAILER @ \$ 1,125.00

SUBTOTAL \$ 15,472.00

PERSONNEL COSTS: 1 RM
1 PCT
1 OPERATOR
3 TRUCKDRIVERS
1 RT

SUBTOTAL \$ 73,500.00

TRANSPORTATION AND DISPOSAL COSTS

4,000 CUBIC YARD OF LOW LEVEL RADIATION
CONTAMINATED SOIL.

SUBTOTAL \$ 250,000.00

ERCS SUBTOTAL \$ 338,972.00

TAT COSTS:

PERSONNEL COSTS: 2 TATH

SUBTOTAL \$ 30,000.00

SOIL SAMPLE ANALYTICAL:

SUBTOTAL \$ 30,000.00

TAT SUBTOTAL \$ 60,000.00

EPA COSTS: EPA DIRECT : 1 OSC

SUBTOTAL \$ 9,000.00

EPA INDIRECT: OFFICE SUPPORT

SUBTOTAL \$ 18,000.00

EPA SUBTOTAL \$ 27,000.00

THE PROJECT IS ANTICIPATED TO TAKE THIRTY DAYS TO COMPLETE.
TOTAL PROJECT COSTS: \$ 425,972.00

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